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# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

## BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of

Babek Tehranchi

AN ENCRYPTION APPARATUS AND METHOD FOR SYNCHRONIZING MULTIPLE ENCRYPTION KEYS WITH A DATA STREAM

Serial No. 09/656,634

Filed September 7, 2000

Mail Stop APPEAL BRIEF - PATENTS Commissioner of Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Group Art Unit: 2132

Examiner: Lanier, Benjamin E.

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Tara Piccone

Date: 5-25-06

# **APPELLANTS' REPLY BRIEF**

This Reply Brief is necessitated by several "new points of argument" in the Examiner's Answer mailed March 31, 2006. Each new point of argument is addressed below in turn.

#### **Status Of The Claims**

Claims 1-3, 5-47, 50-58, and 62-77 are pending in the application.

Claims 4, 48, 49, and 59-61 have been canceled.

Claim 3 stands finally rejected under 35 U.S.C. 112, paragraph 2.

\*Claim 47 stands finally rejected under 35 U.S.C. 112, paragraph 1. This rejection of claim 47 has been withdrawn by the Examiner in the Examiner's Answer.

Claims 62-71 stand finally rejected under 35 U.S.C. 101.

Claims 28, 30, 32-36, 38-41, 43, 44, 52, 58, 62-69, and 73 stand finally rejected under 35 U.S.C. 102.

Claims 1-3, 5-16, 18-27, 29, 31, 37, 42, 45-47, 50, 51, 53-57, 58, 70-72, 74, 75, and 76 stand finally rejected under 35 U.S.C. 103.

All the final rejections of Claims 1-3, 5-47, 50-58, and 62-77 are the subjects of this appeal.

Appendix I of Applicants' Brief provides a clean, double spaced copy of the claims on appeal.

### Grounds of Rejection to be Reviewed on Appeal

The following issues are presented for review by the Board of Patent Appeals and Interferences. Unless indicated otherwise in the Arguments section of the BRIEF and this Reply Brief, all claims are submitted to be separately patentable from any other claim and the patentability thereof will be separately argued in the Arguments section.

- 1. Is claim 3 definite under 35 USC 112, paragraph 2?
- 2. Does claim 47 comply with the written description requirement of 35 USC 112, paragraph 1? This rejection of claim 47 has been withdrawn by the Examiner in the Examiner's Answer.
- 3. Are claims 62-71 directed to statutory subject matter as defined in 35 USC 101?
- 4. Are claims 28, 30, 32-36, 38-41, 43, 44, 52, 58, 62-69, 73 and 77 unpatentable as being anticipated by Warren et al., US patent 5,963,909, (hereinafter referred to as Warren) under 35 USC 102?
- 5. Are claims 12, 18 and 31 unpatentable as being obvious in view of Warren under 35 USC 103?
- 6. Are claims 1-3, 5-10, 13, 15, 16, 17, 20-25, 27, 47, 52, 57, 58, 72, 74 and 75 unpatentable as being obvious in view of Warren taken with Rump et al., US patent 6,735,311, (hereinafter referred to as Rump) under 35 USC 103?
- 7. Are claims 11, 14 unpatentable as being obvious in view of Warren taken with Handelman et al., US patent 5,774,546, (hereinafter referred to as Handelman) under 35 USC 103?
- 8. Is claim 19 unpatentable as being obvious in view of Warren taken with the Schneier reference, Applied Cryptography, second edition, pages 372-373, under 35 USC 103?
- 9. Are claims 26, 37 unpatentable as being obvious in view of Warren taken with Dahan et al., US patent 6,137,763, (hereinafter referred to as Dahan) under 35 USC 103?

- 10. Are claims 42, 45, 46, 50, 53-56 and 76 unpatentable as being obvious in view of Warren taken with Chaum, US patent 5,959,717, under 35 USC 103?
- 11. Are claims 70, 71 unpatentable as being obvious in view of Warren taken with Rabowsky, US patent 6,141,530, under 35 USC 103?
- 12. Are claims 29 and 51 <u>unpatentable as being obvious in view of Warren taken with Rump et al., US patent 6,735,311, (hereinafter referred to as Rump) under 35 USC 103?</u> [patentable over the prior art? (Note that the final rejection mentions these two claims as being rejected only in the summary and not in the body of the final rejection)]

#### **Arguments**

The Status of Claims and the Grounds of Rejection are shown amended to indicate that the rejection of Claim 47 under 35 USC 101 has been withdrawn by the Examiner.

The Status of Claims in the Grounds of Rejection are also shown amended to indicate that claims 29 and 51 are now identified by the Examiner as being rejected as being obvious in view of Warren taken with Rump. Heretofore, the rejection of these claims was uncertain and applicants have argued in their Brief a general argument for patentability. The arguments provided herein and in Applicants' Brief are submitted to be sufficient to overcome the rejections of these claims.

With regard to the rejection of Claims 62-71 as directed to nonstatutory subject matter as defined in 35 USC 101, it is noted that in the Examiner's Answer there is no longer mention that the claims are not limited to the technological arts. In applicants' Brief, the applicants noted United States patent law does not support the application of a "technological arts" requirement. However, the Examiner has still failed to analyze the terms of these claims for subject matter, such as an ID field having plural bits mapping information for identifying an image frame of an image block, as representing subject matter that can support such claims for a data structure under 35 USC 101. It is submitted that the Examiner must consider the claim as a whole.

The Examiner, in response to Applicants' arguments that Warren does not disclose a synchronization index, now identifies that the key stream layer (1250), see Figures 12 and 13 of Warren, provide synchronization of the cryptographic keys for the data blocks. Thus this key stream layer, according to the Examiner, acts as a synchronization index because it would synchronize a key block with a corresponding

data blocks for decryption purposes. It is respectfully submitted, however, that the Examiner fails to consider the claim language as a whole. For example, claim 1 identifies in subparagraph (e) a block synchronization data channel for delivering said block synchronization index from said encryption key generator to the digital data receiver. In addition, subparagraph (d) recites a key transmission channel for delivering said encryption key from said encryption key generator to the digital data receiver. As the applicants have been arguing in their Brief, the Examiner is attempting to have the encryption keys themselves or at least the stream thereof comprise also the block synchronization index for the encryption keys. The Examiner conveniently ignores the limitations in each of the subparagraphs of claim 1 regarding the block synchronization index. The truth of the matter is that there is no index in Warren that meets the limitations of indicating a correspondence between the encryption key in the data block, that is delivered via a block synchronization data channel whereas the key is delivered via a key transmission channel and wherein the digital data receiver includes a decryption engine that is responsive to the synchronization index for mapping each key in a memory to a respective encrypted data block for use in decryption of the respective data block.

With regard to the Examiner's response relative to Claim 36, the Examiner is again arguing that the key stream itself is its own index. However, Claim 36 recites a method step of providing an identifier that correlates a mapping algorithm to said plurality of encryption keys and operating a decryption engine that is responsive to said identifier in the mapping algorithm to generate each key for use in decryption of the respective data block. There is no identifier in Warren meeting these features recited in Claim 36. The keys or the data stream thereof representing such keys in Warren are not an identifier meeting such limitations.

On page 20 of the Examiner's Answer there is an obvious omission of a word (see underlined) and it is submitted that this should read as follows:

Applicant's arguments with respect to claims 12, 18, and 31, rely on the belief that Warren does <u>not</u> disclose a "synchronization index", which has been fully addressed above.

On page 22 of the Examiner's Answer the Examiner has indicated that Applicants are arguing limitations that are not found in Claim 50. This is respectfully traversed. Claim 50 is a dependent claim of Claim 47 and applicants' arguments were directed to Claim 50 in its entirety.

For these reasons, as well as those presented in Appellants' Brief, Appellants respectfully submit that the Final Rejection is in error, and they request its reversal by the Honorable Board.

Respectfully submitted,

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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.